

## MEMORANDUM

### COLLEGE OF MARINE SCIENCE UNIVERSITY OF SOUTH FLORIDA

DATE: September 10, 2003  
TO: Charles Kovach, FDEP  
FROM: Gabriel A. Vargo, USF/CMS  
SUBJECT: Marathon chlorophyll samples

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The samples collected at three locations off Marathon, FL were analyzed for chlorophyll-a concentration using the Holm-Hansen and Reimann (1979) method that is used for all of the Piney Point discharge samples.

Upon arrival the samples were found to be thawed and were then refrozen for several days until analysis. There were also ink marks on two of the filters. It would appear, therefore, that they have to be considered as compromised.

The measured concentrations (Table 1) are, however, well within the limits of chlorophyll levels reported for the Straits of Florida (Corcoran and Alexander, 1963; Vargo and Meyers, 1991). Typical values range from approximately 0.05 to 0.5 Fg/l with the FDEP samples ranging from 0.15 to 0.22 Fg/l. Thus the chlorophyll levels in the FDEP samples collected off Marathon on August 18 fall within the range of typical values.

#### References

Corcoran, E.F. and J. E. Alexander. 1963. Nutrient, chlorophyll, and primary production studies in the Florida Current. *Bull. Mar. Sci. Gulf and Carib.* 13: 527-541.

Vargo, G.A. and M. Meyers. 1991. Comparison of Marine Productivity among the outer continental shelf planning areas. Section: Florida Straits, Easter, Central, and Western Gulf of Mexico. Continental Shelf Associates Final Report for MMS Contract # 14-35-0001-30487.

**Table 1: Piney Point Discharge**

**Samples collected off Marathon, FL  
Extracted Chlorophyll-a concentrations**

<b>Date</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Station</b>	<b>Depth</b>	<b>CHL ug/L</b>	<b>Avg CHL ug/L</b>	<b>Phaeo ug/L</b>	<b>Avg PH ug/L</b>	<b>Comments</b>
8/18/2003			reef	0	0.20	0.22	0.10	0.17	FL Keys sample - ink on filter
8/18/2003			reef	0	0.23		0.25		FL Keys sample
8/18/2003			plume	0	0.14	0.15	0.07	0.07	FL Keys sample
8/18/2003			plume	0	0.15		0.07		FL Keys sample-ink on filter
8/18/2003			inshore	0	0.19	0.19	0.08	0.09	FL Keys sample
8/18/2003			inshore	0	0.18		0.10		FL Keys sample